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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,203	01/16/2002	Ken Ohmura	56232.16 [4989]	8680

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 03/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,203

Applicant(s)

OHMURA ET AL.

Examiner

Christopher D RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 11-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Claim Objections***

Claims 1-20 are objected to because of the following informalities: each of the independent claims refers to "the particle of said toner" but there is no antecedent basis for "the particle". It appears that this means that the toner is in particle form. It is suggested that the claims refer to "particles of said toner" or similar language. Claim 10 is awkward in its phraseology in the passage "wherein the domains comprises have different luminance". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

✓ Claims 1, 10, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akai *et al.* in US Patent 2002/0012863 in view of JP 11-338192.

Akai discloses a toner produced by agglomerating primary polymer particles. The primary particles comprise a wax encapsulated by a binder resin (i.e., domain of wax in a matrix of resin), which are produced by seed polymerization of monomers in an aqueous wax emulsion (¶ [0010]). The wax has a size of from 0.05 to 0.8 μm with wax sizes of 400 nm exemplified (see Example 1). The 400 nm wax size would appear to correspond to a similar FERE diameter as claimed because both measure the horizontal breadth of the particles. (see spec. pp. 27-28)

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The polymer particles containing the wax are mixed with a charge control agent and an aqueous dispersion of pigment (i.e., a solid) and agglomerated to form toner particles (see Examples). A blue pigment is used in the examples. The toner in Example 1 has a size of 6.7 μm . The specific process steps recited in the dependent claims appear to be disclosed by the reference in the examples and/or would produce the same structure as claimed. Because the wax and the binder resin were able to be differentiated in cross-section by TEM it appears that they inherently have different luminance (see spec. p. 18).

The publication does not disclose a crystalline material for use in the toner, but JP 11-338192 states that a crystalline charge control agent having a certain ratio of major to minor axis (Abstract; document claim 1). The charge control agent is excellent in transparency (¶¶ [0004], [0030]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the crystalline charge control agent of the Japanese document in the toner of Akai because Akai desires a charge control agent, such as for color toners (¶¶ [0030]-[0032]), and the JP document discloses a charge control agent with transparency, which would not adversely affect the color imparted to the toner by the colorant.

The publication also does not disclose the variation coefficient of the wax but the reference does teach that the average particle diameter of the wax must be controlled to certain values. This suggests that wax size must be controlled in order to give the results of the invention and that the wax sizes are result effecting. Given such a teaching, the artisan would have found it obvious to minimize the diameter variation of the toner's wax in order to irregular toner size or insufficient wax in the toner.

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Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida *et al.* in US Patent Application Publication 2001/0018158 in view of JP 11-338192.

Toner 1 comprises a styrene-acrylate binder resin, a colorant, a charge control agent, a polar resin, and a release agent wax. The release agent wax forms a single domain in the toner as seen in Figure 2(a) and as permitted by claim 2 (i.e., one domain per toner particle). The reference states that the charge control agent can be any known agent used in the art (§ [0169]). The toners of the publication can be used in a multicolor processing system (§ [0243]). Also note Toner 3, which has from three to five wax domains as seen in Figure 2(b).

The publication does not disclose a crystalline material, but JP 11-338192 states that a crystalline charge control agent having a certain ratio of major to minor axis (Abstract; document claim 1). The charge control agent is excellent in transparency (§§ [0004], [0030]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the crystalline charge control agent of the Japanese document in the toner of Yoshida because Yoshida desires a charge control agent, such as for multicolor toners, and the JP document discloses a charge control agent with transparency, which would not adversely affect the color imparted to the toner by the colorant.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura *et al.* in US Patent 5,759,732.

Nakamura discloses a toner with a size of from 5 to 12 μm and having a colorant and wax particles (i.e., domains) dispersed in a binder resin (i.e., a matrix). See Abstract; col. 2, l. 17-18. The size distribution of the wax is controlled so that the wax particles have a particle size of 4 μm or less and have a particle size distribution in which the wax particles having a particle size of 2 μm or more are 5 number % or less and the wax particles having a particle size of 1

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µm or less are 75 number % or more (col. 2, l. 20-26). 85 number % or more of the wax particles having a shape index SF from 100 to 160 (col. 2, l. 26-28). If particles having an SF value within the above range are less than 85% in number, the toner may be undesirably subject to adverse effects of wax particles of rugby ball-like or leaf-like configuration (col. 3, l. 42-45). The reference specifically suggests microcrystalline wax as the wax component (col. 4, l. 61).

The reference does not exemplify a specific toner having the claimed domain average shape factor, variation coefficient of the shape factor, and ratio of domains having shape factors between 100 and 120 as well as shape factors of at least 240.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a shape factor for the wax particles (i.e., domains) within the range disclosed, such as 160, because this shape factor is specifically disclosed by the reference. Additionally, the reference teaches that the shape factor distribution should be kept small because if too many particles are outside the desired shape factor then the shape of the toner is adversely affected (col. 42-45). The artisan would also have found it obvious to use microcrystalline wax (i.e., a crystalline material) in the toner because this wax is disclosed as effective in the toner by the reference. Clearly the shape factor of the wax and the distribution of the shape factor are result effecting variables in the reference toner. The artisan has ample motivation to prepare the toner with a wax having a shape factor as discussed above and to minimize the shape factor distribution of the wax. The instant claims include the situation where there are no wax particles having a shape factor above 240 and no wax particles with shape factors between 100 and 120, which are suggested in the reference through the optimization of the shape factor.

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D ouble Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 5-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/201403 in view of JP 6-130723. The copending claims disclose and suggest the same toner as present in claims 5-9 of the instant application with the exception of a crystalline material as part of the toner. JP 6-130723 discloses that a toner will achieve better offset resistance, blocking resistance, and fixing properties when a polyethylene wax having a crystallinity of greater than or equal to 80 % is added to the toner having binder resin, colorant, and a wax. It would have been obvious to one having ordinary skill in the art at the time the invention was made to add the crystalline wax material of the JP reference to the toner of the copending claims in order to obtain better offset resistance, blocking resistance, and fixing properties.

This is a provisional obviousness-type double patenting rejection.

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Allowable Subject Matter

Claims 11-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.


CHRISTOPHER RODEE
PRIMARY EXAMINER

cdr
March 5, 2003